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10/783,278	02/20/2004	Jiliang Song	VP108	7611

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EXAMINER
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KRASNIC, BERNARD

ART UNIT	PAPER NUMBER
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2624

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/783,278	<b>Applicant(s)</b> SONG ET AL.	
	<b>Examiner</b> Bernard Krasnic	<b>Art Unit</b> 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>2-20-2004</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 1, 8, and 12 are objected to because of the following informalities:

Claim 1, line 2, claim 8, lines 1-2 respectively: "comprising the operations of" should be

-- comprising operations of --.

Claim 12, line 4: The claim must end with a period -- . --.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 101***

2. Claims 21-26 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

In claims 21-26, a "device" is not subject matter limited to that which falls within a statutory category of invention because it is not limited to a process, machine, manufacture, or a composition of matter. Instead, it includes a form of energy or more specifically, a transmission of signals. A device as viewed in accordance with the specification in lines 3-5 of paragraph [0044] can include a medium having an "electromagnetic carrier wave" that is a suggestion of a transmission of signals which does not fall within a statutory category since it is clearly not a series of steps or acts to constitute a process, not a mechanical device or combination of mechanical devices to constitute a machine, not a tangible physical article or object which is some form of matter to be a product and constitute a manufacture, and not a composition of two or

Art Unit: 2624

more substances to constitute a composition of matter. The applicant needs to clarify the support for the device in the specification and it is suggested that the device not be a suggestion of a transmission of signals (a form of energy); it is suggested to remove lines 3-5 of paragraph [0044] which suggest that the device have a computer readable medium which includes an electromagnetic carrier wave (a form of energy).

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-16 and 19-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Dimick (U.S. 4,566,038).

Re Claim 1: Dimick discloses a method for incorporating a border around a displayed image, comprising the operations of identifying a main image / X's or 1's (see Figs. 3a and 3b, the X's from Fig. 3a or the 1's from Fig. 3b represent the main image); selecting a border image / white area or 0's to be associated with the main image (see Figs. 3a and 3b, the white areas from Fig. 3a or the 0's from Fig. 3b represent the border image of the main image); mapping / run-length encoding the border image to a table / pattern library such that each pixel of the border image is represented by a corresponding single bit / most significant bit of a byte is equal to 0 in the table, the mapping including, defining a first single bit value / bit value 0 for respective border image pixels (see Figs.

Art Unit: 2624

3a-3c, col. 6, lines 51-53 and 66-68, col. 7, lines 1-4); and defining a second single bit value / bit value 1 for respective main image pixels (see Figs. 3a-3c, col. 6, lines 51-53 and 66-68, col. 7, lines 1-4); applying the table / pattern library to a display / digital image display of the main image in order to incorporate the border image with the main image (see col. 1, lines 9 and 33-34, by having this run length encoding with the pattern library, the storage requirements to allow a display is reduced).

Re Claim 2: Dimick further discloses compressing data / run length encoding defining the table / pattern library (see col. 2, lines 32-40), the compressing including, identifying a compressed value / run length byte code to represent whether the corresponding single bit is one of the first single bit value and the second single bit value and how many identical single bits / run length follow the corresponding single bit in the table (see Figs. 3a-3c, col. 6, lines 51-53 and 66-68, col. 7, lines 1-4, the example in Fig. 3c is the run length code "00000010" for the initial border or white area in line 1 of Fig. 3a where the most significant bit of the byte 0 represents the border or white area of Fig. 3a and the remaining seven bits represent a run length of 2).

Re Claim 3: Dimick further discloses defining the compressed value as a byte / a byte or 8 bits, wherein a most significant bit of the byte is associated with the one of the first bit value / 0 and the second bit value / 1, the remaining bits of the byte / 7 right most bits of the byte corresponding to successively repeated bits / run length of the one of the first bit value and the second bit value (see Figs. 3a-3c, col. 6, lines 51-53 and 66-68, col. 7,

Art Unit: 2624

lines 1-4, the example in Fig. 3c is the run length code "00000010" for the initial border or white area in line 1 of Fig. 3a where the most significant bit of the byte 0 represents the border or white area of Fig. 3a and the remaining seven bits represent a run length of 2).

Re Claim 4: Dimick further discloses determining if an amount of identical single bits / run length following the corresponding single bit / most significant bit in the table / pattern library is greater than a maximum amount capable / run length of 127 of being represented by a seven bit value (see col. 7, lines 9-11); if the amount of identical single bits is greater than the maximum amount, then the method includes, combining multiple bytes / two successive run length codes to represent the compressed value (see col. 7, lines 12-13), each of the multiple bytes / two successive run length codes have a common most significant bit (taking two successive run length codes as described above).

Re Claim 5: Dimick further discloses representing the amount of identical single bits / run length as a combination of the multiple bytes / five-byte run length or 16 bits in which the common most significant bit is removed (see col. 7, lines 13-15 and 63-68, col. 8, lines 1-8).

Re Claim 6: Dimick further discloses defining a compressed data structure / run length code (see Fig. 3c) to represent a block of successively repeated single bits / run length

Art Unit: 2624

in the table / pattern library (see Figs. 3a-3c, col. 6, lines 51-53 and 66-68, col. 7, lines 1-4, the example in Fig. 3c is the run length code "00000010" for the initial border or white area in line 1 of Fig. 3a where the most significant bit of the byte 0 represents the border or white area of Fig. 3a and the remaining seven bits represent a run length of 2); storing the compressed data structure / stored in library; and generating the table through decompression / decode (56) (see Fig. 6, col. 10, lines 9-21) of the compressed data structure.

Re Claim 7: Dimick further discloses the compressed data structure / run length code is a byte / a byte or 8 bits of data having a most significant bit representative of one of the first single bit value / 0 and the second single bit value / 1 and remaining bits of the byte of data indicating an amount associated with the successively repeated bits / run length (see Figs. 3a-3c, col. 6, lines 51-53 and 66-68, col. 7, lines 1-4, the example in Fig. 3c is the run length code "00000010" for the initial border or white area in line 1 of Fig. 3a where the most significant bit of the byte 0 represents the border or white area of Fig. 3a and the remaining seven bits represent a run length of 2).

As to claims 8-11, the claims are the corresponding method to claims 1-3. respectively. The discussions are addressed with regard to claims 1-3.

Re Claim 12: Dimick further discloses storing the compressed template layout / run length code (see col. 6, lines 51-53 and 66-68, col. 7, lines 1-4, the run length codes are

Art Unit: 2624

stored in the pattern library); requesting / run length encoding (see Fig. 3c, col. 6, lines 51-53 and 66-68, col. 7, lines 1-4) the main image be combined with the border image; and decompressing / decode (56) (see Fig. 6, col. 10, lines 9-21) the compressed template layout in response to the request.

Re Claim 13: Dimick further discloses selecting one of a main image pixel value and a border image pixel value based on a value of the template / the most significant bit of the run length code byte (col. 6, lines 51-53 and 66-68, col. 7, lines 1-4).

As to claims 14, the claims are the corresponding system claims to claims 1-2 and 6 respectively. The discussions are addressed with regard to claims 1-2 and 6.

Re Claim 15: Dimick further discloses logic for accessing (56) the compressed data in the buffer (28) (see Fig. 6, col. 10, lines 9-21, the decoder accesses the stored compressed data); and logic for decompressing (56) the compressed data in order to present the image having the border (see Fig. 6, col. 10, lines 9-21, col. 1, lines 9 and 33-34).

Re Claim 16: Dimick further discloses logic / decoder (56) for identifying a most significant bit of the decompressed data as being associated with one of the first single bit value and the second single bit value (see Fig. 6, col. 10, lines 9-21, the decoder decodes the compressed information by doing the opposite of the compression



Art Unit: 2624

technique); and logic (56) for determining a number of repeated bits following the most significant bit (see Fig. 6, col. 10, lines 9-21, the decoder decodes the compressed information by doing the opposite of the compression technique).

As to claim 19, the discussions are addressed with respect to claims 1-3.

As to claim 20, the discussions are addressed with respect to claim 4.

As to claim 21, the claim is the corresponding system claim to claims 1-3 respectively. The discussions are addressed with regard to claims 1-3.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 17-18 and 22-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dimick. The teachings of Dimick have been discussed above.

Although Dimick doesn't specifically disclose, as recited in claim 17, the logic for decompressing the compressed data is a 14 bit counter, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have such a feature because Dimick teaches having two successive run length coded bytes (see col. 7, lines 12-13) when the run length is greater than 127 (the most significant bit of each byte representing the border or main image and the remaining seven bits of each byte

Art Unit: 2624

representing the run length) and therefore a 14 bit counter (7 bits of the first run length coded byte and 7 bits of the successive run length coded byte) would be the way to decompress the compressed two successive bytes.

Although Dimick doesn't specifically disclose, as recited in claim 18, logic for determining a number of repeated bits is configured to provide a select signal to a multiplexer based upon the most significant bit, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have such a feature because feeding the most significant bit to a multiplexer along with the run length will help distinguish if a border pixel or Dimick's white area will be displayed or if an image pixel or Dimick's X pixel will be displayed (see Fig. 3a) with the appropriate run length.

Re Claims 22-26: Dimick discloses a central processing unit (50), a main memory / RAM (58), and logic for receiving the table / decoder (56).

However, Dimick fails to specifically disclose a display panel in communication with the GPU; a bus in communication with the CPU, memory, and GPU; a memory region having a display buffer, the display buffer configured to store the compressed single bit values; the device is selected from the group consisting of a cellular phone, a pocket personal computer, a web tablet, and a personal digital assistant (PDA); receiving the table from a distributed network; the distributed network is over one of a wired connection and a wireless connection.

The Examiner takes Official Notice that it would have been exceedingly obvious to one of ordinary skill in the art at the time the invention was made to modify Dimick's method by including the limitations of a display panel in communication with the GPU; a bus in communication with the CPU, memory, and GPU; a memory region having a display buffer, the display buffer configured to store the compressed single bit values; the device is selected from the group consisting of a cellular phone, a pocket personal computer, a web tablet, and a personal digital assistant (PDA); receiving the table from a distributed network; the distributed network is over one of a wired connection and a wireless connection. These limitations are well known and typical in the communication field between computers and networks and therefore would be exceedingly obvious modifications toward Dimick's method in order to broaden the applicability of Dimick's method.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Roman et al discloses a general purpose compression for video images; Roman discloses variable general purpose compression for video images; Kurita et al discloses encoding and decoding methods for use in facsimile; Anderson discloses method for converting a bit map of an image to a run length or run end representation; Mital et al discloses visual display system having low energy data storage subsystem with data compression capabilities, and method for operating same;

Art Unit: 2624

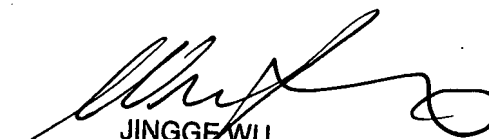
Fedak et al discloses compaction and compaction of non-coded information bearing signals.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard Krasnic whose telephone number is (571) 270-1357. The examiner can normally be reached on Mon-Thur 8:00am-4:00pm and every other Friday 8:00am-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on (571) 272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Bernard Krasnic  
June 20, 2007

  
JINGGE WU  
SUPERVISORY PATENT EXAMINER